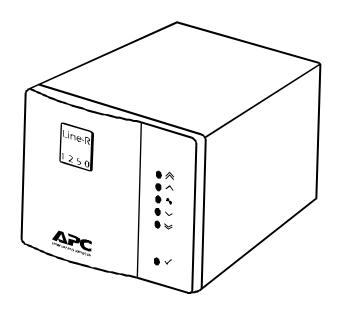


Line-R™

Models 600 and 1250



User's Manual

Thank you!

Thank you for selecting this **American Power Conversion Line-R**TM brand power conditioner. This power conditioner provides the highest degree of protection from line voltage sags, swells, spikes, surges, and electrical noise. It has been designed for many years of reliable, maintenance-free service.

Important safety instructions!

Please read this manual!
Veuillez lire ce manuel!
Bitte lesen Sie dieses Anleitungshandbuch!
¡Se ruega leer este manual de instrucciones!

This manual provides safety, installation, and operating instructions that will help you get the fullest performance and service life that the Line-R has to offer.

Please save this manual! It includes important instructions for the safe use of this UPS, and for obtaining factory service if necessary. Future service or storage issues may arise and require reference to this manual.

Conserver ces instructions! Cette notice contient des instructions importantes concernant la sécurité.

Radio frequency interference

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le present appareil numerique n'emet pas de bruits radioelectriques depassant les limites applicables aux appareils numeriques de la Class A prescrites dans le Reglement sur le brouillage radioelectrique edicte par le ministere des Communications du Canada.

Hiermit wird bescheinigt, dass der <u>Line-R 600, 1250 Stromversorgungs-Gerät</u> in Unereinstimmung mit den Bestimmungen der Vfg 1046/1984 funk-entstort ist. Der Deutschen Bundespost wurde das Inverkehrbringen diese Gerates angezeigt und die Berechtigung zur Uberprufung der Serie auf Einhaltung der Bestimmungen eingeraumt.

1.0 Introduction

1.1 Overview

This power conditioner is a high-performance, microprocessor-controlled tap changing power conditioner which automatically corrects brownouts and overvoltages from your power utility service to levels that are safe for your computer and phone systems, and other sensitive equipment.

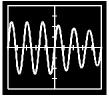
1.2 Voltage regulation

Chronically abnormal line voltage is often the result of adjustments made at the power station to conserve energy or to compensate for low voltages in other areas. Locally, the operation of heavy loads such as air conditioners, office copiers, and laser printers may cause temporary voltage fluctuations.

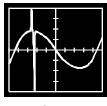
This power conditioner uses reliable, fast-acting regulation circuitry to protect your equipment from chronic brownouts (by boosting low voltage) or overvoltage conditions (by stepping down high voltage), and provides protection against short duration line voltage sags and swells.

1.3 Surge and noise suppression

The power conditioner features a multistage surge suppression design and full-time electrical noise filters to suppress noise and surges caused by lightning; nearby radio transmitters; and motor load switching in air conditioners, elevators, and refrigerators to well below the tolerances of even the most sensitive equipment.







Sag

Swell

Electrical noise

Surge

2.0 Safety!

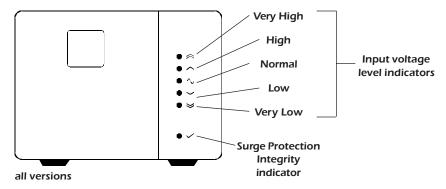


Before starting your installation, please read the following safety instructions!

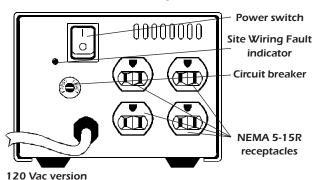
- The power conditioner is intended for indoor use only.
- Operate the power conditioner in an area with adequate air flow, and an atmosphere free of excessive dust and corrosive fumes. Do not block the ventilation openings.
- Do not place the power conditioner near heat-emitting appliances such as radiators or stoves.
- Avoid installing the power conditioner where there is water or excessive humidity.
- When using the power conditioner with an uninterruptible power supply, connect the UPS to the power conditioner's output.

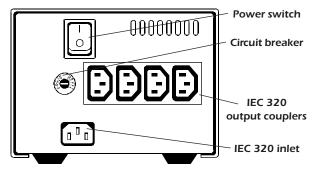
3.0 Presentation

3.1 600 and 1250 VA power conditioners—front panel



3.2 600 and 1250 VA power conditioners—rear panel





230 Vac version

4.0 Installation

4.1 Receiving inspection

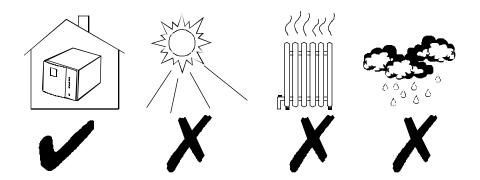
Remove the power conditioner from its shipping container and inspect it for damage that may have occurred in transit. Notify the carrier and place of purchase if any damage is found. The packing materials are made of recyclable materials and should be saved for reuse or disposed of properly.

4.2 Placement

You may install the power conditioner in any protected environment. Make sure you provide adequate air flow around the unit, in an atmosphere free from excessive dust. $\rightarrow \downarrow \downarrow _{-1,2.5 \text{ cm}}$

Note: Allow 1 inch (2.5 cm) minimum clearance on all sides for proper ventilation.

Do not operate the power conditioner is an environment where the ambient temperature or humidity is outside the limits listed in the Specifications section of this manual (see Sec. 6.6).



4.0 Installation

4.3 Connect the power conditioner to service and enable

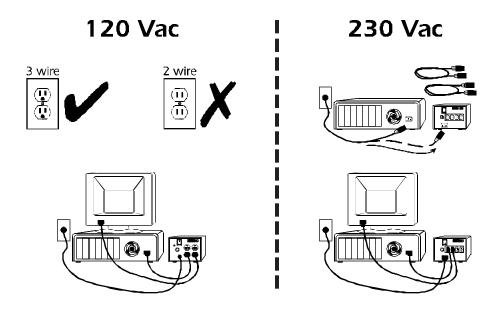
■ 120 Vac version

Plug the power conditioner into a two-pole, three-wire grounding receptacle only. Avoid using extension cords and adapter plugs.

■ 230 Vac version

The 230 Vac version of the power conditioner is supplied with two output IEC 320 cords. Swap a line cord from your equipment with one of the output cords and plug in the power conditioner using the equipment cord. The power conditioner's input cord must be three-conductor, each 1.0 mm², rated to 10 Amps.

If your equipment does not have a removable line cord, a rewireable plug (included) may be installed on the line cord. Additional output cords and adapter plugs are available from your dealer and from the factory.



4.0 Installation

4.4 Connect the load equipment

Plug your equipment into the power conditioner's rear-panel receptacles. You may switch the equipment on, but they will not be powered until you switch on the power conditioner. Make sure the your total equipment load does not exceed the power conditioner's rated capacity (listed on the rear-panel).

4.5 Switch on the power conditioner

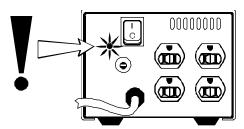
Switch on the power conditioner by pressing the rear-panel Power switch to the on (1) position. This switch may be used as a master on/off switch for all the equipment connected to the power conditioner.



4.6 Check Site Wiring Fault indicator—120 version only

After you connect your equipment to the power conditioner and switch it on, check the Site Wiring Fault indicator on the rear panel. It will light if the power conditioner is plugged into an improperly wired outlet. Wiring faults detected include missing ground, hot-neutral polarity reversal, and overloaded neutral circuit.

Note: If the power conditioner indicates a site wiring fault, a qualified electrician should be summoned to correct the building wiring.



4.7 Overloads/rear-panel circuit breaker

If you connect too much equipment to the power conditioner, it will become overloaded and the circuit breaker will trip. When the breaker is tripped, its button is extended. Eliminate the overload by disconnecting noncritical equipment. Reset the circuit breaker by pressing the extended button.

5.0 Operation

5.1 Front-panel indicators

5.1.1 Very High input voltage indicator

The Very High indicator lights when the power conditioner is regulating input voltage which is approaching the upper limit of the conditioner's rated range.

5.1.2 High input voltage indicator

The High indicator lights when the power conditioner is regulating input voltage which is above normal.

5.1.3 Normal input voltage indicator

 \bigcap The Normal indicator lights when the input voltage is normal.

5.1.4 Low input voltage indicator

The Low indicator lights when the power conditioner is regulating input voltage which is below normal.

5.1.5 Very Low input voltage indicator

The Very Low indicator lights when the power conditioner is regulating input voltage which is approaching the lower limit of the conditioner's rated range.

5.1.6 Surge Protection Integrity indicator

The Surge Protection OK indicator lights when the power conditioner is on and operating normally. The indicator is off when the power conditioner has disconnected itself from the input service because of a sustained high-energy surge, or the unit is overloaded. If the indicator is off, check the rear-panel circuit breaker, and reset it if necessary.

5.3 Audible alarm

The power conditioner will sound an audible alarm when it detects extreme input voltages that it cannot correct. Such high or low voltages will cause output voltages outside the conditioner's rated regulation band.

For 120 Vac models, the audible alarm sounds when the input voltage is *outside* the range 85–150 Vac. For 230 Vac models, the audible alarm sounds when the input voltage is *outside* 162–299 Vac.

6.0 Specifications

6.1 Input	version:	120 Vac	230 Vac
Frequency:		50 or 60 Hz	
Model 600 maximum current:		8 Amp	3.5 Amp
Model 1250 maximum current:		15 Amp	7 Amp

6.2 Output

Model 600 maximum capacity:	600 W or 600 VA
Model 1250 maximum capacity:	1250 W or 1250 VA

6.3 Regulation

Input (Vac)	Output (Vac)	Regulation
88 to 150	106 to 127	ANSI C84.1-B
92 to 145	111 to 123	117 Vac ±5%
182 to 287	219 to 242	230 Vac ±5%

6.4 Surge & noise suppression

320 Joules total (10/1000μs)		
Normal mode ±6 kV IEEE 587 Cat. A let-through: <100 Vpeak		
above input		
35 to 55 dB over 0.1–10.0 MHz		
_		

6.5 Physical

Size (H×W×D):	5.0×6.8 (12.7 × 17.2)	× 8.4 in. × 21.3 cm)
Model 600 weight:	11.0 lb (5.0 kg)	10.5 lb (4.8 kg)
Model 1250 weight:	15.5 lb (7.0 kg)	16.3 lb (7.4 kg)

6.6 Operating environment

Operating temperature:	0 to 40 °C (32 to 104 °F)
Operating humidity:	0 to 95%, non-condensing
Audible noise:	< 45 dBA at 3 ft (1 m)

Limited Warranty

American Power Conversion (APC) warrants its products to be free from defects in materials and workmanship for a period of two years from the date of purchase. Its obligation under this warranty is limited to repairing or replacing, at its own sole option, any such defective products. To obtain service under warranty you must obtain a Returned Material Authorization (RMA) number from APC or an APC service center. Products must be returned to APC or an APC service center with transportation charges prepaid and must be accompanied by a brief description of the problem encountered and proof of date and place of purchase. This warranty does not apply to equipment which has been damaged by accident, negligence, or misapplication or has been altered or modified in any way. This warranty applies only to the original purchaser who must have properly registered the product within 10 days of purchase.

EXCEPT AS PROVIDED HEREIN, AMERICAN POWER CONVERSION MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Some states do not permit limitation or exclusion of implied warranties; therefore, the aforesaid limitation(s) or exclusion(s) may not apply to the purchaser.

EXCEPT AS PROVIDED ABOVE, IN NO EVENT WILL APC BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OF THIS PRODUCT, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE. Specifically, APC is not liable for any costs, such as lost profits or revenue, loss of equipment, loss of use of equipment, loss of software, loss of data, costs of substitutes, claims by third parties, or otherwise. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

Life support policy

As a general policy, American Power Conversion (APC) does not recommend the use of any of its products in life support applications where failure or malfunction of the APC product can be reasonably expected to cause failure of the life support device or to significantly affect its safety or effectiveness. APC does not recommend the use of any of its products in direct patient care. APC will not knowingly sell its products for use in such applications unless it receives in writing assurances satisfactory to APC that (a) the risks of injury or damage have been minimized, (b) the customer assumes all such risks, and (c) the liability of American Power Conversion is adequately protected under the circumstances.

Examples of devices considered to be life support devices are neonatal oxygen analyzers, nerve stimulators (whether used for anesthesia, pain relief, or other purposes), autotransfusion devices, blood pumps, defibrillators, arrhythmia detectors and alarms, pacemakers, hemodialysis systems, peritoneal dialysis systems, neonatal ventilator incubators, ventilators for both adults and infants, anesthesia ventilators, and infusion pumps as well as any other devices designated as "critical" by the U.S. FDA.

Hospital grade wiring devices and leakage current may be ordered as options on many APC UPS systems. APC does not claim that units with this modification are certified or listed as Hospital Grade by APC or any other organization. Therefore these units do not meet the requirements for use in direct patient care.



PHONE

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MAILING MAILING

American Power Conversion 4, rue Ste Claire Deville Zac du Mandinet-Bâtiment Espace Lognes 77447 Marne La Vallee Cédex 2 France

Please note: Before calling customer service, please have available your power conditioner's serial number (see label at the rear of the unit).

Serial number:

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